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ABSTRACT

A model on learning that occurs in the workplace is discussed. Two theoretical frameworks are explored: multiple learning domains and action science. Four examples that reflect some of the characteristics of the new paradigm for learning in the workplace are included. The examples concern management development in a large business, a staff orientation workshop in an international organization, role behaviors in bureaucratic versus clarifying learning environments, and incidental learning based on action science. Several applications drawn from theory and practice are covered. First, self-directed learning plans can be developed by individuals with the help of self-selected facilitators (e.g., supervisors, mentors). A second application is the need to address reflection in work-related learning. This could be done by forming a voluntary peer group that provides a forum to identify and examine undiscussables in organizational life. A third applicaiton is the need to address feelings as well as reason. A final application that draws on action science principles and emphasizes the group context is action learning (e.g., multi-level task teams can be formed to monitor trends and issues that arise in the workplace). (SW)

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Informal Learning in the Workplace: Models of Practice

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The concept of learning in the workplace means, for most people, training, i.e., short-term, organized activities designed to produce specific behavioral changes. While this approach has proved successful in many business environments, this author has reviewed changes in organizations in a post-industrial era that call for an expanded perspective on workplace learning as described below.[1]

Current and Emerging Models for Workplace Learning[2]

Training models for the most part have been derived to prepare people to work in organizations characterized by the metaphor of a machine. Work and workers are organized along logical, rational, linear lines with clear demarcation of responsibilities, hierarchical control, and forged unification of parts into a whole in which duplication and overlap is minimized. Changes in the post-industrial era call for a different kind of organization, perhaps more like a hologram, the laser-created photograph in which the whole is completely present in and can be duplicated from any one part.[3] These organizations acknowledge the role of intuition as well as logic in decision-making, value multiple perspectives rather than one dimension, encourage worker participation, allow for job overlap, and engender creativity and variety in jobs. Learning under the first metaphor prepares people for machine-like work according to their levels in the hierarchy much as in an assembly line. Learning under the second metaphor aims at a constant habit of reflection, enhancement a variety of skills and

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[1]Marsick, V. "New Paradigms for Learning in the Workplace." V. Marsick (ed.). Learning in the Workplace: Theory and Practice. London, England: Croom-Helms, forthcoming.

[2]The first two sections of this paper are drawn from an article written by the author for C. Klevins, ed., Materials and Methods in Adult and Continuing Education (Canoga Park, Ca.: Klevins Publications, forthcoming).

[3]Morgan, B. and Ramirez, R. "Action Learning: A Holographic Metaphor for Guiding Social Change," Human Relations, Volume 37, #1, 1983.

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perspectives, collaboration in setting and achieving goals, and mutual negotiation of roles and responsibilities.

Training as currently practiced is characterized by a behavioral performance focus on cause-effect actions that can be quantified, criterion-referenced and measurable. Personal development is separated from work-related development and is often considered a fringe benefit, if offered at all. Training, which usually consists of classroom-based group activities, is designed to close gaps in technical knowledge and skills between individual abilities and an organizational ideal often based on expert opinion about the one best way to do a job. The emphasis in problem-solving is on finding the best objective solution through a linear, rational, step-by-step process. And while the organizational environment is considered as critical for sustained learning, trainers focus more on that portion of a performance problem that has to do with learning since trainers seldom have much control over the environment.

By contrast, the post-industrial era calls for learning under conditions of uncertainty, turbulence, and rapid change. Two frameworks can be used to suggest learning strategies for this new era: Mezirow's analysis of learning domains[4] and action science. Basing his work on Habermas, Mezirow suggests that there are three domains of learning: instrumental, dialogic and self-reflective. Instrumental learning is most common, with a focus on task-oriented problem-solving and, in the workplace, productivity. Dialogic learning refers to the way in which people come to understand and agree upon consensual norms in society. In the workplace, people learn dialogically about the culture of the organization or when they interpret policies, procedures, or goals. Self-reflective learning is directed at personal change, which in the American workplace, is tied very closely to work challenges, relationships with authorities and peers, coping with unfair treatment or failure, and changes in orientation to the job, the organization or one's career goals. In any given situation, learning often takes place in all three domains. However, the behavioral focus of training has typically favored learning in the instrumental domain, to the neglect of the other domains.

Action science as practiced by Argyris and his colleages[5] is appropriate for learning in the post-industrial era because it is concerned

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[4]Mezirow, J. "A Critical Theory of Adult Learning and Education." Adult Education, 32:1 (1981), pp. 3-24.

[5]Argyris, C., Putnam, R. and McClain Smith, D. Action Science. San Francisco: Jossey-Bass, 1985.

with workplace problems when the nature of the task is complex and even threatening, and when one's usual approaches to a problem have failed. Often in such circumstances, instead of a rigorous open examination of the reasons for failure and one's own role in it, people try to cover up their errors, blame others, keep negative reactions private, and make face-saving moves. Protective, defensive routines prevent making one's reasoning public, openly reflecting on one's reactions, and initating experiments to test out alternative ways of doing things.

Action science is derived from the action learning spiral in which one progressively identifies a problem, suggests possible solutions, implements the solutions, monitors implementation, and uses results to re-frame the problem and begin another cycle of learning. Argyris and his colleagues have focused on the link between inventing solutions and producing them. They suggest that it is here that people often fail in achieving the results they expect because the ideas they hold about effective action (espoused theories) often differ from the way they act (theories-in-use). The reason for this difference is a set of norms or values that govern action which they have identified as follows:

-define goals and manage the environment to achieve them;
-maximize winning by owning and controlling the task;
-minimize expression of negative feelings by continually protecting yourself (inference without description, blaming, stereotyping, etc.);
-be rational and thus try to protect others from being hurt by witholding or disguising information.

These values are not conducive to exploration, dialogue and learning because they foster defensiveness and do not encourage the open testing of ideas and theories. Under some circumstances these values lead to success, but over time, they keep people repeating the same behaviors based on the same ineffective reasoning (in a single loop) rather than allowing people to examine and change these underlying values (double loop learning).

As practiced by Argyris and his colleagues, action science is used to analyze one's underlying values in a given situation, digging below the usual superficial reasons and attributions to uncover discrepancies between what one says he or she is doing and what one actually does. Through role play, the person tries handling the situation differently until he or she can get past habitual, often deeply-embeded, ineffective responses. In terms of Mezirow's three domains, while action science is catalyzed by problems in the instrumental domain, learning is largely focused on a person's

internalization of social norms, thus touching deeply the dialogic and self-reflective learning domains.

Based on these frameworks, this author has suggested that training's typically instrumental focus be broadened to include learning about consensually-derived organizational norms and learning about oneself in relationship to that environment. Personal development would not be considered as separate from the job, antagonistic to it, or as an "add-on" since people learn best about the job when their own identity and growth are considered. Goup learning becomes increasingly significant in the post-industrial era since individuals join together in work groups to create their goals and working relationships. Instead of a "deficit" model of learning design in which individuals are taken lock-step through certain phases toward one correct behavior set, learning is designed to promote a constant habit of reflection so that workers can respond flexibly with as much accurate information as possible to unpredictable challenges.

This shift in perspectives also calls for more time in understanding and setting the problem before trying to solve it -- a creative, non-linear process of probing that can be aborted by too quick a demand for solutions. Less emphasis is placed on formal training, although if appropriately designed and timed, these activities are also valued. More emphasis is placed on helping people understand their daily informal interactions and use them for growth. Finally, the organization is considered a learning environment for the growth of individuals and groups vis-a-vis work, not solely as a factor to be manipulated to produce desired behavior. As such, it must provide opportunities for experimentation, risk-taking, dialogue, and initiative.

Informal Learning Models

At the heart of this perspective and the two frameworks on which it is based is an emphasis of reflection, both at a simple level in which one regularly examines one's experience to assess its effectiveness, and at a deeper, more critical level in which one probes for assumptions, values, beliefs and internalized norms that shape habitual responses. This kind of learning can be fostered in formal activities, but opportunities for what Schon calls "reflection-in-action"[6] abound more naturally when learning informally on-the-job. This next section briefly examines "models" that have capitalized on some dimension of informal learning.

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[6]Schon, D. The Reflective Practitioner. New York: Basic Books, 1983.

1. Corporate Shift in Management Development[7]

A large business with offices spread throughout the Middle West and West surveyed its managers in 1981 through questionnaires and in-depth (2-3 hour) interviews to identify competencies important to management and the best way to develop these in staff. They found that education/training plays an important role, but that on-the-job experiences and relationships (coaching, mentoring, modeling) are equally important. Most of the time, managerial competencies are developed through a complementary mix of all three strategies. Work assignments must permit on-the-job learning and include clear, constructive feedback. Since there is seldom much recognition or reward for developing oneself or one's subordinates, policy must be examined and changed, and incentives and guidance offered for skills in mentoring, coaching, counseling and modeling.

Suggestions were made based on the survey for implementing this combined approach. For example, to address the problem of "little reward for developing others," the report suggests that formal training programs emphasize this value and that new courses be developed to address effective coaching, mentoring, and use of feedback for development. These relationships can be encouraged by increasing recognition and publicity for mentoring and coaching. And learning can be enhanced on-the-job by including the development of others in job descriptions and performance measures.

To address the need to begin management development early in one's career, besides readily accessible training and education, the new manager can be helped to develop a network of contacts and expertese. Learning can be encouraged on-the-job by involving new managers in formative activities, e.g., key projects, task teams, committee assignments, presentations, and representation of the department at meetings. The report also suggests that trial and error learning be encouraged. In addressing specific functional competencies, some of which are learned through appropriate training and education, the report suggests that subject matter experts serve as mentors on-the-job and as instructors in courses. Managers should be encouraged to try out new behaviors, be innovative and take risks, while receiving appropriate feedback. Job rotation and mobility plans can enhance widespread development of skills.

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[7]Honeywell, Corporate Human Resources and Corporate Employee Relations, "Management Development Survey: Corporate Findings," In-house company report, 1981.

The report looks forward to competencies needed in the future as well as those being currently developed. It suggests that courses be developed to meet future needs as periodically identified by managers. To supplement this, a list of people identified as having these "future" competencies should be published. Part of their job would be to teach others; their skills in coaching and mentoring should be developed. Networks should be fostered among managers to identify future and potential problems, possibly through task teams with members from all levels and functions.

2. Orientation in the Workplace

The next example is simple in concept but difficult to implement in many work settings. This author has been assisting the United Nations Children's Fund in the design of a two-week "model" workshop orienting relatively new staff (6 months to 1 year) to the organization's approach to programming and to key policy areas. The workshops are to be conducted at the regional level, with a team of trainers drawn from several country offices, and participants selected from at least a dozen offices within the region.

This kind of workshop had been conducted in the past with some level of success although it was never clear how much of this was the result of newly acquired skills and how much was due to the opportunity to develop relationships with colleagues from other country, regional and headquarters offices. The workshop was originally designed to introduce professional staff to programming. The format consisted of readings, presentations, exercises and discussions, and a field visit that was to capsulize the experience of programming. Based on this visit, participants then spent several days putting together a sample country programme and sharing it with colleagues. With time, additional sessions were added to meet other ad-hoc needs. The workshops were not run frequently, however, since they depended on the availability of a team of line staff who had already experienced this kind of workshop and who had the time to assemble the vast amounts of material needed to run such a workshop. Since the organization also went through a period of rapid growth, many new professional staff were not trained. Furthermore, with time, staff other than programming professionals were included in the workshop because they had to understand this process even though this was not their primary function or because this workshop was seen as an opportunity for career development. Finally, these workshops were recognized as valuable in

orienting new staff to other aspects of the organization and to key policy priorities.

The challenge was to consolidate the material generated by the many objectives of the workshop into a "model" which included all key components but from which a regional group of trainers could select, substitute, adapt, add or delete to produce a workshop that would meet both corporate priorities and region-specific needs. Moreover, since many of the people who would be running the workshop would not be trainers by experience or profession, the materials had to include the rationale for choices made and guidelines for adaptation and use.

The most daring decision made in the design of the materials was to avoid reliance on the usual two-week time period to get across all the information you ever wanted to know about programming and policy! This is achieved by making sure the participants receive their pre-workshp materials two months in advance. Besides objectives and assigned readings, each session includes a pre-workshop assignment that is not just a re-hashing of information, but asks people to talk with others in their office and the country, look at available information, and put together notes for discussion at the workshop that relates the session topic to the problems and issues they face on-the-job. The workshop is designed primarily around group work based on these pre-workshop assignments, supplemented by appropriate films, videos, mini-lectures by local resource persons, and "clinic" sessions in which small groups draw on resource persons to solve situation-specific problems or individually-defined learning needs.

The emphasis is thus on learning rather than training (or teaching). We wanted to use the workshop as a catalyst to help new staff build their own professional networks and discover resources on-the-job that would help them understand programming and policy -- not only because they had to do this for the workshop, but because this would put them on the road to a continual process of learning and perhaps open doors for them to people who otherwise might be difficult to approach but who would be useful in both their current job success and their future career development. For this workshop model to work, the first essential element is the commitment of the Regional Directors and Country Representatives to the development of their staff, translated into resources (people, information and time) to prepare for the workshop.

A third decision was to sanction the habit of continued learning by asking participants throughout the workshop to keep notes from each session for action plans. Informal teams will be formed, with a resource

person assigned to each group. Throughout the workshop, this person will act as a coach in the development of these action plans, helping participants think about whether or not they have identified the right problem, what forces will help or hinder its implementation, what resources they need, how realistic the plan is, etc. Action plans can be related to the content of the session, i.e., programming applications; or it can relate to plans for their own continued learning (formal or informal).

The workshops thus become opportunities to share ideas and plans, to clarify questions and concerns, and to take advantage of opportunities for networking afforded at both the job site and the workshop. The emphasis in sessions is less on whether or not participants understand the lectures or readings, and more on their translation into practice.

3. Designing the organization as a learning environment

Current training models frequently look at the organization as a system and attempt to identify whether or not the problem they are addressing is truly a learning problem or should be addressed through other changes in the organization. While this makes the job of the trainer easier, it frequently leaves the employee in the middle. He or she knows why he can or cannot do the job, but the problem cannot be solved by training and it won't be solved by the organization! It seems that the bottom-line mentality of many in organizations implies that the business of business is business, and personal learning is just something that gets in the way of profit-making. However, some people within organizations today note that long-range success depends on the continued learning of employees, and that this cannot be accomplished solely through periodic injections of training, almost as if the company were conducting an immunization campaign that might have provisions for booster shots but neglects any opportunities for good health in between injections.

Skruber has been working on the design of organizations as clarifying learning environments.[8] He has based his work on the design of pre-scientific folk models as learning environments as interpreted by Moore and Anderson[9] who identify four principles applicable to the needs of a dynamic society:

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[8]Skruber, R., "Organizations as Clarifying Learning Environments." V. Marsick, Learning in the Workplace, op. cit.

[9]Moore, O.K. and Anderson, A. R., "Some Principles for the Design of Clarifying Environments." D. Goslin (ed.), Handbook of Socialization Theory and Research. Chicago: Rand McNally Co., 1969.

-perspectives principle, or the different attitudes one can take toward an organzation, specifically as agent, patient or reciprocator;
-autotelic principle, or the extent to which the learner is protected from physical and psychological risks, and the degree to which he or she finds satisfaction in the nature of work itself;
-productive principle, which enables a person to learn more than the task at hand, that is to make inferences about learning how to learn or learning to manage, etc.;
-personalization principle, or the degree to which a person can explore freely and receive immediate appropriate feedback so that he or she can not only learn about the task at hand but also about how he or she learns.

The attached diagram (1) illustrates what role behaviors might look like in bureaucratic vs. clarifying learning environments.

To operationalize these principles in an organization, Skruber has also developed from the literature a set of organizational variables through which these principles might manifest: purposes or goals, structure, compensation, techniques/strategies, communication and leadership. See the attached diagram (2). Skruber has then matched the principles against these variables to derive a tool by which we might better understand the learning environment of organizations, and has been developing a set of tools that can be used to identify approximately where an organization (or a group within an organizationa) vis-a-vis these principles.

The attached chart (3) is his framework for correlating principles and variables. While he cautions that it is impossible to isolate one variable as solely correlated with one principle, he shows how each of the four principles are more strongly demonstrated in one of the variables. The perspectives principle shows up more easily when people look at their role vis-a-vis the organization's goals. For example, a teller can take the patient perspective and do only that work assigned; can take the agent perspective by handling difficult situations instead of always referring them up the line; and can take the referee perspective and see all points of view, thus better evaluating role, performance, and behavior needed to fulfill various client expectations. The autotelic principle, safety from risks and freedom to pursue development, shows most strongly in the compensation variable where motivation sincludes both extrinsic and intrinsic rewards. The productive principle shows up in structure where rigid hierarchical rules might prohibit initiative and growth. Finally, the personalization principle shows most strongly in communications, as for

ORGANIZATIONAL ROLE SETS AS A FUNCTION OF CONTRASTING LEARNING ENVIRONMENTS

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Bureaucratic Learning Environment	Design Principles	Clarifying Learning Environment
Blames Others, Makes Excuses	Perspectives	Takes Personal Responsibility
Lacks Intentionality, "I Can't" Attitude		Intentionality, "I Can" Attitude
Disconnectedness from Actions: "Patient" Oriented		Connectedness to Actions: "Agent" Oriented
Responds to External Authority: "What will please my boss?"		Responds to Internal Authority: "What do I think is right?"
Seeks Status Quo: "If it ain't broke, don't fix it!" Attitude		Initiates Changes: "How can I make it better!" Attitude.
Engages in Projections & Distortions: Focuses on "you need," "you should," "they said," etc.		Counter - Projective Remarks: Focuses on "I need," "I should," "I did," etc.
Reactive - Avoids Risk - Hampers Creative Thinking	Autotelic	Proactive - Seeks Opportunities - Promotes Creative Thinking
Blind Loyalty: Invokes current practices		Questions Authority: Challenges current practices
Compatible with Bureaucratic Demands: Quotes policy, rules, regulations when faced with uncertainty.		Non-Adaptive to Bureaucratic Demands: Makes exceptions to policy, rules, regulations without fear of consequences.
Security Oriented	Productive	Competence Oriented
Activities Oriented: Focus on "Busyness"		Results Oriented: Focus on Accomplishments
Hides or Distorts Information		Solicits and Shares Information
Form - Oriented: "What looks good?"		Substance - Oriented: "How can we find out what "good" is?
Passive, Submissive & Dependent: Learning Needs Defined by Others	Personalization	Active, Assertive, and Independent: Learning Needs Defined by Self
Maximum Defensiveness: Closed to personal criticism - avoids feedback to others		Minimum Defensiveness - Seeks personal criticism - Helps others to explore areas for improvement
Not Reflective - Compulsion to Repeat Mistakes		Reflective - Learns from Experience
Self-Proclaimed Expert - Knowledge is a function of location in the hierarchy		Collaborative and Consensually-Validating Learner: Knowledge is a function of groups' collective expertise.

Source: R. Skruber, "Organizations as Clarifying Learning Environments," in V. Marsick, ed., Learning in the Workplace: Theory and Practice (forthcoming, Croom-Helms).

Diagram 1

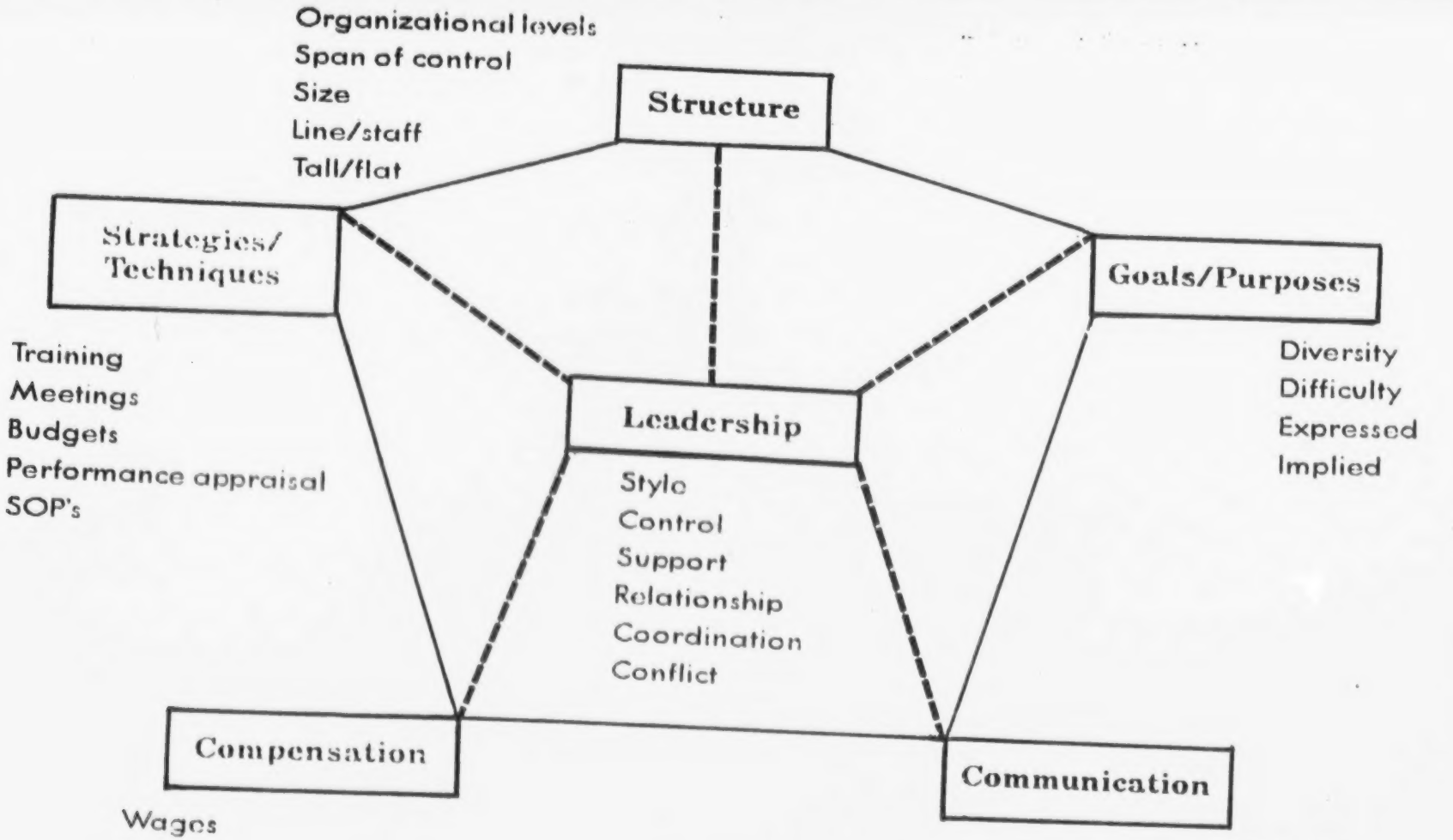

Diagram 2

Organizational variables

Source: R. Skruber, "Organizations as Clarifying Learning Environments," in V. Marsick, ed., Learning in the Workplace: Theory and PRactice (forthcoming, Croom-Helms).

Figure 3

Framework for Correlating Principles and Variables

	Perspectives	Autotelic	Productive	Personalisation
GOALS/ PURPOSES	primary correlation			
COMPEN- SATION		primary correlation		
STRUC- TURE			primary correlation	
COMMUNI- CATIONS				primary correlation
TECH- NIQUES/ STRATE- GIES	enabler	enabler	enabler	enabler
LEADER- SHIP	mediator	mediator	mediator	mediator

PRINCIPLES/VARIABLES CORRELATION

Source: R. Skruber, "Organizations as Clarifying Learning Environments," in V. Marsick, ed., Learning in the Workplace: Theory and Practice (forthcoming, Croom-Helms).

example, in discussions around performance where the organization does or does not encourage workers to give and receive feedback, reflect on behaviors, explore belief systems, learn about themselves, and communicate this appropriately in the organization.

The two other organizational variables are more or less neutral in that they can be used either to clarify or obfuscate environments. Techniques/strategies are enablers that allow one or more of the design principles to be used. Leadership is a mediating variable, which perhaps is the most important in pulling together all other variables and design principles.

4. Incidental learning: an action science perspective

The last model in this paper looks at incidental learning, defined by researchers Watkins and Wiswell at the University of Texas, Austin, as "a spontaneous action or transaction, the intention of which is task accomplishment, but which serendipitously increases particular knowledge, skill, or understanding. Incidental learning, then, includes such things as learning from mistakes, learning by doing, learning through networking, learning from a series of interpersonal experiments (e.g. 'I test my parameters with a new boss by asking for things to see what gets shot down")."[10]

Action science as described above forms the basis for this approach to combining research with change in practice, along with the notion that all learning that takes place is not necessarily individual although individuals always partake of it. Based on an interest in organizational decline, Watkins has pursued the metaphor of organizational learning, that is, learning that takes place among groups of people within a shared organizational structure. Combining this metaphor with an interest in action science, she borrows from Argyris and Schon to define organizational learning as "occurring when individuals operating as 'learning agents for the organization respond to internal and external changes by detecting and correcting errors in organizational theories-in-use and embed the results of their inquiry in private images and shared maps of organization.'"[11] Organizational learning has been classified by Shrivastava as adaptation, as assumption sharing, as developing a knowledge base of action-outcome

[10]Watkins, K. in Marsick, V. and Watkins, K., "Approaches to Studying Learning in the Workplace." V. Marsick, Learning in the Workplace, op. cit.

[11]Ibid.

relationships, and as insitutionalized experience.[12] The common base for these and other perspectives on organizational learning is that organizations are shared realities with their own past, present and future. Informal learning can take place simultaneously within an individual and within a larger entity such as a group or organization. There are times when learning is clearly one or the other, and times when some individuals learn and not the organization, or vice versa.

Watkins and Wisell set out to investigate in greater detail the nature of incidental learning, and the way in which this facilitated or impeded organizational learning, at three sites in Texas: a major research hospital in Houston, a large state government agency, and a Fortune 500 high technology manufacturing company in Austin. Sixty people in various human resource development roles were interviewed and completed questionnaires about their work-related learning practices using a specially designed tool called the Learning Practices Audit. It was hypothesized that people committed to human resource development should practice what they preach, but it was also recognized via the action science framework that espousing certain solutions did not mean people would create them.

Findings included vignettes such as the following:

> Individuals were asked: "Think about the last time that you had to solve a problem for which you did not have the necessary skills or knowledge. How did you go about learning what you needed to know? Who or what in the organization helped you? Did it work?" In reflecting on their responses, we noted numerous examples of double binds which had led to a gap between what was intended or valued and the action that was actually taken. One example that stands out was the comment of many human resource developers interviewed at each of the sites that learning is their mission -- both as an organization and also as a department. As they described their activities in carrying out this mission, countless examples were offered of the organization asking them to develop a program with very little lead time. In one instance, they were asked to develop a major training program for 5,000 employees on a chemical safety problem in two weeks. In another instance, an individual was serving as a liaison to a large department and found that their training needs were overwhelming -- many more

[12]Shrivastava, P., "A Typology of Organizational Learning Systems," Journal of Management Studies, vol. 20, no. 1 (1983), pp. 7-28.

programs were requested than the individual could possibly develop and schedule within the time frames requested. His manager suggested that the best strategy to employ would be to listen very attentively to all requests and to then go ahead and do those that could be done in the time available. As we listened to this person, we began to realize that on the one hand, this strategy did convey to the staff that the training department was empathic and would listen to their needs. On the other hand, it might also inadvertently communicate that the training department could do anything they asked, which might escalate their demands. Or, the inability to respond to all of their needs might lead the staff to conclude that learning was unavailable to them and therefore to question the learning mission of the training department.[13]

Incidental learning, while powerful in the sense that people fall back on it all the time, can be both positive and negative. Many forms of incidental learning remain in the shadows of taken-for-granted daily life and are seldom brought out to be examined, illustrated, inquired into , or tested against reality. Thus, assumptions are acted upon that may have results very different than those intended.

The results of the Learning Practices Audit have not been summarized, written up, reported upon, and then forgotten. Part of the design of action science is discussing findings with partners-in-research and helping them decide on actions they may wish to change, and to try out new behaviors through role play in which inferences are backed up by illustrations from daily life, evaluations are inquired into, and attributions are tested out.

Conclusions: Some Applications

This paper has explored the basis for a new look at learning in the workplace: broadening its current instrumental focus, ackowledging the relationship between personal and job-related development, preparing people to work in organizations more like holograms than machines, encouraging group as well as individual learning, assisting people to become reflective practitioners, concern for setting problems as well as solving them, and building the organization as a learning environment. Two theoretical frameworks were explored, that of multiple learning domains

[13]Watkins, op. cit.

and of action science. Finally, four specific examples were reviewed that reflect some of the characteristics of the new paradigm for learning in the workplace that was introduced.

This author suggests several possible applications drawn from theory and practice. First, self-directed learning plans can be developed by individuals with the assistance of self-selected facilitators in the organization -- supervisors, peers, mentors or training specialists. These plans should be separate from performance assessment tools (i.e., evaluation), although information from performance planning might be one input into their design. The plans can include both short and long term goals and strategies to reach them that include, but go beyond, formal training and education. Mentors and coaches can be identified, and if necessary, coaching provided to those willing to act in this role on how to give constructive feedback and fill other mentor functions. Job assignments and changes can be thought of in terms of possible career goals, although the plan itself should be subject to frequent revision, based on continued reflection on one's work in the context of the organizational norms and self-development. These plans might be analagous to "growth charts" -- that is, kept by the person him or herself and used as a general index of an upward growth trend.

A second application is the need to address reflection in work-related learning. A giant step would be taken if simple reflective learning were encouraged in many jobs. Double-loop learning, which digs beneath the surface for underlying values and norms that influence action, can be addressed, but this typically requires the support of management to carry out. An alternative would be a voluntary peer group committed to assisting one another in this way. Reflection of this type can be encouraged through identifying and examining the undiscussables in organizational life, as is suggested by action science. This impinges not only on individual development, but on learning that frequently contributes to understanding and perpetuating group and organizational norms, myths, rituals, and other aspects of shared organizational life.

A third application is the need to address feelings as well as reason. While work-related learning is typically catalyzed by an instrumental focus, the most significant learning in our lives also touches deeply on social norms that we have internalized as part of our identity or on other aspects of ourselves formed from our early childhood. Yet in most workplaces, feelings are an undiscussable and an open secret. This is perhaps most obvious in performance-related discussions where feedback is focused on so-called "objective" factors when the real issues at stake are avoided because they could touch off emotions. Co-workers and trainers cannot

become therapists. However, there are ways of allowing people to explore feelings within certain limits of safety that frequently block learning and development. Mezirow's work with understanding how people learn in the dialogic and self-reflective learning domains sheds some light on this, as does work done by some peer counseling groups.[14]

A final application that draws on action science principles and emphasizes the group context is action learning. As suggested by the management development example above, multi-level task teams can be formed to monitor trends and issues that arise in the workplace. The approach used by these groups could be the fine-tuned action science elaborated here or a less complex spiral of setting and framing problems, suggesting strategies for addressing them, implementing and monitoring results, and feeding lessons learned back into the re-framing of the problem. In either case, a mechanism can be formed for individuals to combine their own insights with an examination of lessons learned by larger groups and the organization itself.

[14]Marsick, V. "Working with Adult Learners in Higher Education," Paper prepared for a presentation at the AAACE, Milwaukee, WI, Nov. 6-9, 1985.